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10/082,597	02/22/2002	Brad V. Johnson	NUFO009	5739

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EXAMINER

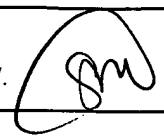
MENEFEE, JAMES A

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/082,597	Applicant(s) JOHNSON, BRAD V. 
	Examiner James A. Menefee	Art Unit 2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

In response to applicant's amendment filed 1/24/2005, the specification is amended, as well as claims 1-3, 5, 7-8, 10, 12, 16-18, 23-25, 28, 30-33, and 35-36. Claims 1-36 are pending.

### *Claim Objections*

Claim 16 is objected to because of the following informalities: in part "(d)", the term "aid" should read --said--. Appropriate correction is required.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 4-6, 8-11, 23-24, 27-28, 31-32, and 35-36 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 26-28 of U.S. Patent No. 6,717,965 in view of Missey.

Regarding all of these claims, '965 discloses a tuning element positioned in a light beam that is formed by a gain medium, a drive element driving the tuning element, a cavity reflector

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that is necessarily positioned after the tuning element, and a grid generator. '965 does not explicitly claim that the tuning element is an etalon; however, claim 26 recites "thin film interference means;" this invokes 35 U.S.C. 112 6th par., and therefore one must look to the specification to understand the scope of the claims. The interference filter is defined throughout the specification as an etalon, and therefore an etalon is claimed.

There is not disclosed the drive element magnetically coupled to the tuning element, the tuning element and drive elements including magnetic elements for providing the magnetic coupling and the driving. Missey teaches a magnetic driver that will necessarily include these elements, see the below 103 rejections.

Claims 1-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6,788,724 in view of Missey.

'724 appears to clearly claim all of the elements described in the presently claimed invention, including tuning elements, driver, gain medium, reflectors, grid generator, hermetically sealed housing, carbon drain, moisture trap, and inert atmosphere. It is not explicitly claimed that the tuning element is an etalon; however claim 22 recites "means for tuning" the laser. This invokes 35 U.S.C. 112 6th par., therefore one must look to the specification to understand the scope of the claims. The laser is tuned using an etalon 26, and therefore an etalon is claimed.

There is not claimed the magnetic coupling and associated magnetic elements. This is taught by Missey with motivation as in the below 103 rejections.

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It is noted that the examiner understands that in a double patenting rejection one may not typically use the disclosure as prior art, only the claims. However, in the above patents, the use of means-plus-function limitations brings the structure of the specification, viz. the etalon, into the claims. Since the etalon structure is incorporated into the claims it may be used in the double patenting rejections.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-5, 8-10, 23-24, 27-28, and 31-32, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian (US 6,108,355) in view of Missey.

Independent claims:

Regarding claims 1, 23, and 35, Zorabedian discloses an optical apparatus comprising tuning etalon 162 positioned in a light beam, and a drive element 160 driving the tuning element so that it translates up and down relative to the beam. It is not disclosed that the drive element is magnetically coupled to the tuning element. Missey teaches that a magnetic actuation may be done to translate an element up and down relative to the beam. Col. 6 lines 12-14. It would have been obvious to one skilled in the art to use the magnetic actuation as an alternative means for translation of the tuning element, as taught by Missey.

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Regarding claims 8 and 31, the claims are combinations of the limitations of claims 1 and some of the dependent claims (i.e. claim 24), and thus are taught as shown above and below.

Dependent claims:

Regarding claim 4, and 27, Zorabedian discloses gain medium 102 emitting the beam.

Regarding claims 5, 10, 18, 28 Zorabedian teaches reflector 122 positioned after the tuning element.

Regarding claims 9 and 32 there is taught a drive element and magnetic elements as described below with respect to claim 24.

Regarding claim 24, Missey's translation system does teach a driver 26 for driving the translation. It is not explicitly taught in Missey that magnetic elements are coupled to the element to be translated as well as the driver, with the magnetic actuation being done via the magnetic elements. While Missey describes magnetic actuation very broadly, the specifics are not described. However these specifics would be inherent to the magnetic actuation. The magnetic elements would necessarily be located on the element to be translated, i.e. the tuning element, and on the driver, so that the translated tuning element may actually be translated magnetically. There is included a driver to cause the translation, and the element that is actually translated. In order for there to be magnetically actuated translation, there must be an interaction between magnets. Since there is a driver for causing the translation, logically a magnetic element must be coupled to the driver. Since the etalon will be magnetically driven, then logically there must be a magnetic element coupled to the etalon. The etalon itself will not be magnetic, therefore the examiner sees no other explanation for the magnetic actuation to operate. This reasoning appears

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to be technically sound, and therefore appears to satisfy the reasoning required to show inherency. See response to arguments below for more clarification.

Regarding claim 34, the claim is a combination of limitations described above.

Claims 2-3, 7, 12, 15-18, 22, 25-26, 30, 33-34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian and Missey as applied to the claims above, and further in view of Aikiyo (US 6,396,023). Zorabedian and Missey teach the limitations of the claims as in the above rejections, but do not disclose that the device should be hermetically sealed (and as in claims 15 and 22 that the hermetically sealed package contains an inert atmosphere). Aikiyo teaches that a laser device may be hermetically sealed in an inert atmosphere. Col. 2 line 42 – col. 3 line 3. It would have been obvious to one skilled in the art to include the laser in a hermetically sealed package with an inert atmosphere in order to maintain the cleanliness of the package so that organics will be prevented from adhering to the laser, as taught by Aikiyo. While Aikiyo does not specifically refer to external cavity lasers, Aikiyo's teachings are applicable to all lasers, since one skilled in the art would want to avoid the degrading effects of organics regardless of the type of laser used. The teachings are also applicable to the parts of a laser, such as the etalon, because such parts could also be affected by degradation due to moisture, organics, and the like.

Claims 13-14 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian, Missey, and Aikiyo as applied to the claims above, and further in view of Bartholomew et al. (US 5,696,785). The limitations of the parent claims are taught as above, but

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it is not disclosed that there is a carbon drain or moisture trap in the package. Bartholomew teaches a heremetically sealed laser system including a carbon drain (i.e. activated carbon, col. 2 line 36) and a moisture trap (i.e. water immobilizer, col. 2 lines 24-25). It would have been obvious to one skilled in the art to include such elements so that water and organics that may degrade the laser may be removed, as taught by Bartholomew.

Claims 6, 11 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian and Missey as applied to the claims above, and further in view of Lunt (US 6,215,802). Zorabedian and Missey teach the limitations of the above claims, but do not teach a grid generator located in the optical path within the cavity. Lunt teaches a grid etalon, i.e. a grid generator, that may be placed in a laser system (col. 1 line 41 – col. 2 line 20). It would have been obvious to one skilled in the art to use the grid generator of Lunt because this will accomplish the multiplexing and demultiplexing of signals in telecommunication devices and will meet the standards of the ITU, as taught by Lunt.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian, Missey, and Aikiyo as applied to the above claims, and further in view of Lunt. The limitations of the parent claims are taught as above, but there is not taught a grid generator located in the optical path within the cavity. Lunt teaches this with motivation as in the rejection of claims 6, 11 and 29 above.



***Response to Arguments***

Applicant's arguments filed 1/24/2005 ("Response") have been fully considered but they are not wholly persuasive.

- Specification objections and 35 U.S.C. 112 2nd par. rejections.

Applicant's arguments concerning the objection to the specification and the 35 U.S.C. 112 second par. rejection are persuasive. See Response at 9. Due to applicant's amendment these points are obviated, therefore they are withdrawn.

- Double patenting rejections

Applicant's arguments concerning the double patenting rejections, Response at 9-10, are not persuasive. The rejections have been modified due to applicant's amendments, but the arguments are still relevant to the modified rejections. Applicant appears to have misconstrued the law concerning obviousness type double patenting. Applicant argues that since Missey has no common assignee or inventor then there can be no double patenting. The examiner agrees that if these rejections were based solely on the Missey reference then there could be no double patenting; however they are not, they are based on the commonly owned patents, with the Missey secondary reference used to show that the application claims are obvious over the patent.

Obviousness-type double patenting requires rejection of an application claim when the claimed subject matter is not patentably distinct from the subject matter claimed in a commonly owned patent when the issuance of a second patent would provide unjustified extension of the term of the right to exclude granted by a patent. *See Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 58 USPQ2d 1865 (Fed. Cir. 2001); *Ex parte Davis*, 56 USPQ2d 1434, 1435-36 (Bd. Pat. App. & Inter. 2000).

A double patenting rejection of the obviousness-type is "analogous to [a failure to meet] the nonobviousness requirement of 35 U.S.C. 103" except that the patent principally underlying the double patenting rejection is not considered

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prior art. *In re Braithwaite*, 379 F.2d 594, 154 USPQ 29 (CCPA 1967). Therefore, any analysis employed in an obviousness-type double patenting rejection parallels the guidelines for analysis of a 35 U.S.C. 103 obviousness determination. *In re Braat*, 937 F.2d 589, 19 USPQ2d 1289 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

Since the analysis employed in an obviousness-type double patenting determination parallels the guidelines for a 35 U.S.C. 103(a) rejection, the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are employed when making an obvious-type double patenting analysis.

#### MPEP 804 II.B.1.

An obviousness type double patenting rejection is made when the application is not patentably distinct from the issued patent. If the features of the application would have been obvious over the patent, then they are not patentably distinct. Since obviousness type double patenting is to follow the *Graham v. Deere* 103 analysis, then clearly it is contemplated that secondary references may be used to show that features would have been obvious to one skilled in the art, just as they are used in a typical obviousness rejection. *Missey* is used as a secondary reference to show that the features not included in the patents are obvious, therefore the rejections are deemed proper. Applicants did not argue against the merits of the rejection, only that it was improper on its face, therefore no rebuttal as to the merits is required of the examiner.

Furthermore, see in the MPEP form paragraph 8.36, Titled "Rejection, Obviousness Type Double Patenting - With Secondary Reference(s)." Clearly the MPEP contemplates obviousness type double patenting using a secondary reference.

- 35 U.S.C. 102 rejections

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The arguments concerning the rejections under 35 U.S.C. 102 are persuasive and those rejections are withdrawn. After the amendment the claims require the tuning element to be an etalon, therefore the Missey and Espindola references no longer anticipate the claims.

- 35 U.S.C. 103 rejections – the combination of Zorabedian and Missey

Applicant next argues that the 35 U.S.C. 103 rejections using Zorabedian in view of Missey are improper. Response at 11-13. As an initial matter it is noted that Zorabedian does disclose the tuning element 162 as an etalon, therefore the amendment does not obviate the rejection.

Applicant discusses the differences between Zorabedian and Missey, namely that they are directed to two different types of laser systems and that the element being translated is not the same in the references and is not used for the same reasons. Applicant concludes that the combination would render Zorabedian unsatisfactory for its intended purpose or change its principle of operation, therefore the combination is improper. The examiner disagrees.

That Missey provides a different type of laser system is not persuasive that the combination cannot be made. Missey is only used to teach the magnetic means of translating an element. Translation is translation, whether done on an element in an external cavity laser or on an element in a DFB system. There is no need for Missey's translation to be exclusive to a lens in a DFB system; it would be equally applicable to any element in any laser system where translation is performed. It does not matter that Missey's element is used for a different purpose; Missey is not used to teach only that magnetic translation of lenses is obvious, but is used to teach that magnetic translation in general is obvious.

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Furthermore, Zorabedian's basic premise, the intended purpose or principles of operation, will not be destroyed by the combination. Zorabedian already teaches translation of the tuning element. The combination will not change this; the combination goes only to the means of translation. Missey teaches that other means of translation are known in the art, translation that one skilled in the art would have applied to Zorabedian. Zorabedian's device will not be rendered inoperable because a different kind of translation is used, and will operate equally as well with magnetic translation as with mechanical translation.

- Examiner's use of "well known in the art" type statements

Applicant next argues that the examiner's rejections of claims 2, 7, 12-15, 20-22, 25-26, 30, 33, and 36 are improper because the examiner relied on statements that features were well known in the art and no extrinsic evidence has been provided. Response at 13 and 14. In response the examiner has cited references that teach these well known features showing that indeed they were obvious at the time of the invention. The references added in this action are added only to provide support for the examiner's "well known in the art" statements and therefore it is proper that this action be made final. See 2144.03 D. No new teachings from the references have been used, that is the examiner has used the same motivation previously given for these elements: to prevent degradation of the laser.

- Arguments against inherency

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Applicant argues that the rejections of claims 3, 17, and 24 are improper because the examiner stated that certain features were inherent but there is no evidence that they are inherent. Response at 13-14. These arguments are not persuasive.

The applicant appears to have misstated the MPEP in arguing that “to establish inherency *the Examiner must provide extrinsic evidence* that the missing descriptive matter is necessarily present. *See* MPEP 2112IV.” Response at 13 (emphasis in original). The MPEP does not explicitly require extrinsic evidence. It should be noted that MPEP 2112 IV has the title “Examiner Must Provide Rational or Evidence Tending to Show Inherency” (emphasis added), implying that a sound rational is sufficient. It further states “[T]he examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” MPEP 2112 IV. (quoting *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)). No other portion of 2112 IV appears to be dispositive in applicant’s favor, therefore the implication from the above is that reasonable technical reasoning is acceptable so long as it shows the features are necessarily present. Indeed, section 2112 IV quotes a case, *In re Schreiber*, 128 F.3d 1473, 44 USPQ2d 1429 (Fed. Cir. 1997), where extrinsic evidence does not seem to have been provided. In *Schreiber* it seems that the examiner based his inherency arguments merely on sound technical reasoning, arguing that the similar shape of the prior art devices would necessarily provide the claimed function. The Federal Circuit affirmed the rejection.

Since it has been shown that, contrary to applicant’s assertions, extrinsic evidence of inherency is not required and sound reasoning is sufficient (so long as it indeed shows inherency), the merits of the inherency rational are now reviewed. The examiner still believes

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that the features are inherent, and a bit of further explanation is provided in the above rejections of these claims (see rejection of claim 24 above). The examiner sees no manner of operation where the magnetic actuation of the element taught by Missey could occur other than in the manner claimed. For magnetic actuation and magnetic translation, how can this occur without magnetic elements on both the driver and etalon? Of course the applicant may still rebut the finding of inherency by showing that the magnetic actuation could occur in some other manner, that it need not inherently occur using the claimed features. But in the Response applicant only argued that the rejection was facially improper with no discussion of the merits of the inherency argument, therefore no further rebuttal by the examiner on the merits is needed.

- Remaining arguments based only on the above arguments

Applicant's argument concerning the rejections of claims 6, 11, 19, and 29 under 35 U.S.C. 103, Response at 14, add nothing to the other arguments and are rebutted for the same reasons.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action, i.e. the modification of the double patenting rejections. Further, the new grounds of rejection to support the examiner's "well known" statements do not prevent this action from being made final. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

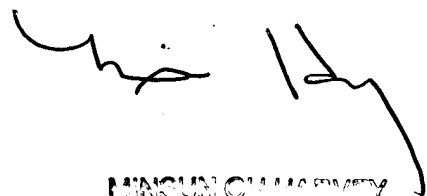
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (571) 272-1944. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JM  
April 27, 2005

  
**MINSUN HARVEY**  
**PRIMARY EXAMINER**